



August 31, 2006

## **Office of Water Quality Water-Quality Information Note 2006.14**

**Subject:** Software-- Public release of the SPARROW model documentation and software

Documentation and software for the SPARROW (SPATIally Referenced Regression On Watershed attributes) water-quality modeling system are now available online at <http://pubs.usgs.gov/tm/2006/tm6b3/> and <http://water.usgs.gov/nawqa/sparrow/sparrow-mod.html>.

SPARROW is a watershed modeling technique for relating water-quality measurements made at a network of monitoring stations to attributes of the watersheds in which the stations are located. The core of the model consists of a nonlinear regression equation describing the non-conservative transport of contaminants from point and diffuse sources on land to rivers and through the stream and river network. The model predicts contaminant flux, concentration, and yield in streams and has been used to evaluate alternative hypotheses about the important contaminant sources and watershed properties that control transport over large spatial scales.

The SPARROW documentation consists of two parts. Part 1 describes the physical and statistical theory underlying the SPARROW methodology and provides a practical guide to its application. Part 2 of the documentation is a user's guide to the SPARROW software package, including a detailed description of model features, and instructions for specifying and estimating a model, and for generating model predictions. The SPARROW software package comes with programs to build, estimate and simulate a SPARROW model. The software includes a sample total nitrogen application for the conterminous U.S.

A SPARROW training course will be given Oct. 24-27, 2006, in Denver, CO. See <http://water.usgs.gov/nawqa/sparrow/intro/qw2438a.pdf> for additional details.

Additional information and contact information can be found on the SPARROW web page at <http://water.usgs.gov/nawqa/sparrow/>.

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